# Hazard Mitigation and Climate Resiliency at FEMA



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December 8, 2016

NALEO: National Policy Institute on Emergency Planning and Preparedness Conference



#### Overview

- Mitigation Funding Programs
- Mitigation Projects
- Other Considerations
- Examples (HI Sea Level Rise and CA Wildfires)
- Future of Climate Change Adaptation and Resiliency
- New Resiliency Project Types
- Challenges and Lessons Learned
- How to Sign up for Grants Information



# Mitigation Funding Programs









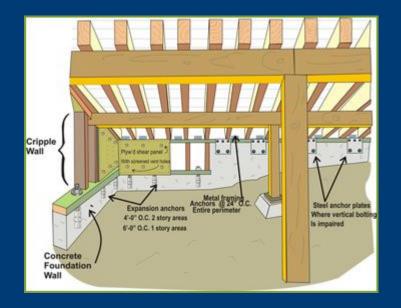


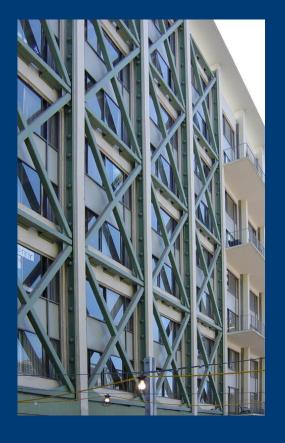
# Mitigation Actions

- Prevention
- Property Protection
- Public Education and Awareness
- Natural Resource Protection
- Structural Projects



# Seismic Retrofit













# Wildfire Mitigation

- Removing fuel sources
- Hazardous fuels reduction
- Defensible space
- Ignition resistant materials

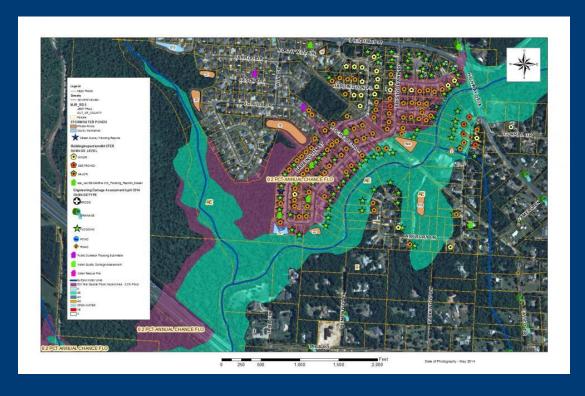








# Acquisition/Elevation









# Flood Drainage

- Prevention
- Property Protection
- Public Education and Awareness
- Natural Resource Protection
- Structural Projects









# Innovative Mitigation Actions



- 1. Hazardous Fuels Reduction prevents wildfires
- 2. Logjam deflects river flow to prevent erosion
- 3. Jute Netting helps control erosion and reduces risk of landslides



### Other Considerations

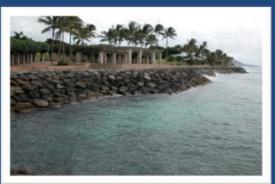
#### General Eligibility Criteria include:

- Consistent with State and Local Hazard Mitigation Plans
- Have a beneficial impact on declared area
- Offer an independent solution to a problem
- Are cost-effective (benefit/cost ratio of 1.0 or higher)
- Are consistent with Environmental/Historic Preservation laws and executive orders - Emergency Provisions
- Can be packaged with other programs but cannot duplicate other funding sources



#### ADAPTING TO SEA LEVEL RISE







#### Accommodation (Adapt)

- Increased shoreline setbacks
- Siting and design standards for development
- Structural retrofitting

#### Protection (Harden)

- Hard solutions (e.g. seawalls)
- Soft solutions (e.g. beach/dune restoration)
- Hybrid solutions (e.g. groins & beach fill)

#### Retreat (Realign)

- Limitations on new development
- Acquisition of coastal lands
- Transferrable development rights

#### California Wildfires

- Drought + Fire + Rains = mudflows, debris flows, floods
- Solutions:
  - Hydroseeding, erosion control measures, culvert enlargement, stream restoration









### New Resiliency Project Types:

- Flood diversion and storage:
  - Diversion and storage of floodwaters into reservoirs, floodplains, wetlands, and green infrastructure.
- Green infrastructure:
  - Replicates a site's predevelopment, natural hydrologic function infiltrating into ground.
- Aquifer storage and recovery:
  - Capturing water when abundant and recovering when needed; injection well or infiltration.
- Floodplain and stream restoration:
  - Remove structures, restore native vegetation, ensure connectivity and storage capacity.



## Challenges and Lessons Learned

#### Challenges:

- Acceptance of a changing environment
- Desire to maintain status quo because "this is how we have always done things"
- Incorporation of technology

#### Lessons Learned

- When in doubt, hit the road
- Evaluate and improve
- Network!
- Finding common ground



#### For Grants Information:

Visit - https://service.govdelivery.com/accounts/USDHSFEMA/subscriber/edit

- 1. Enter/Confirm email
- 2. Select email delivery preference and submit
- 3. Click add subscriptions
- Under Mitigation-Mitigation Grants, select all categories under Mitigation Grants

#### Select all pages in Mitigation Grants

- 1. Flood Mitigation Assistance Program
- 2. Hazard Mitigation Grant Program
- 3. Pre-Disaster Mitigation
- 4. Flood Claim
- 5. Severe Repetitive Loss



# Questions?

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